DOCUMENT RESUME

ED 467 765 SP 040 998

AUTHOR	McCurry, David S.
TITLE	Multimedia Case-Based Support of Experiential Teacher Education: Critical Self Reflection and Dialogue in Multi-Cultural Contexts.
PUB DATE	2002-04-00
NOTE	10p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 1-5, 2002).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*Case Method (Teaching Technique); College School Cooperation; Critical Thinking; Elementary Secondary Education; *Experiential Learning; Higher Education; Multicultural Education; *Multimedia Materials; Preservice Teacher Education; Teacher Collaboration
IDENTIFIERS	Self Reflection

ABSTRACT

This paper describes a qualitative study exploring the efficacy of using selected multimedia technologies to engage preservice and practicing teachers in critical dialogue. Visual representations, such as 360-degree panoramic views of classrooms hyperlinked to text descriptions, audio clips, and video of learning environments are used as anchor points for discussion and dialogue between preservice teachers, practicing teachers in a local K-12 district, and university faculty. Critical ethnographic constructs in the study are used to engage the visual, textual, and aural material and also used to elicit responses, critique, and discussion about real classroom environments through web-based communication. Critical theoretical frameworks, developed by the university candidates, are validated against their discovery of classroom realities in the context of field experiences, and thus provide avenues for phenomenological inquiry. As one result, university preservice candidates learn to creatively produce and use multimedia materials and technology as a professional resources in their own development. Cooperating teachers also re-examine their own pedagogical practices in light of new methods for visually and critically examining their own teaching space. The activity also contributes to the initial stages of new university-local school district collaboration. (Contains 20 references.) (Author/SM)

Reproductions supplied by EDRS are the best that can be made

ED 467 765

Multimedia Case-Based Support of Experiential Teacher Education; Critical Self Reflection and Dialogue in Multi-Cultural Contexts

By
David S. McCurry

Curriculum and Instruction Department,
School of Education, Monmouth University
W. Long Branch, NJ 07764
dmccurry@monmouth.edu

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

David McCurry

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Presented at the American Educational Research Association
Annual meeting in New Orleans, April 1 – 5, 2002

© 2002, David S. McCurry. All rights reserved. Not for reproduction without consent of the author.

240998

BEST COPY AVAILABLE

Abstract

This paper describes a qualitative study exploring the efficacy of using selected multimedia technologies to engage preservice and practicing teachers in critical dialogue. Visual representations, such as 360 degree panoramic views of classrooms hyperlinked to text descriptions, audio clips, and video of learning environments, are used as anchor points for discussion and dialogue between pre-service teachers, practicing teachers in a local K-12 district, and university faculty. Critical ethnographic constructs in the study are used to engage the visual, textual and aural material and also used to elicit responses, critique, and discussion about real classroom environments through web-based communication. Critical theoretical frameworks, developed by the university candidates, are validated against their discovery of classroom realities in the context of field experiences and thus provide avenues for phenomenological inquiry. As one result, university preservice candidates learn to creatively produce and use multimedia materials and technology as a professional resource in their own development. Cooperating teachers also re-examine their own pedagogical practices in light of new methods for visually and critically examining their own teaching space. The activity also contributes to the initial stages of new university-local school district collaboration.

Introduction

Teacher professional development is one area where new technologies may play a useful role, but research into applications is not keeping pace with developments in both the technology itself and in preferred frameworks for professional development programs in education. While texts, presentations and discussion offer useful information in the university-based setting, the contextual reference, or anchor, for building new knowledge and understanding about teaching is often lost or disassociated with experiential knowledge gained in the field. Case studies are a proven and useful way of engaging learners in constructed representations of both real and imagined scenarios related to future contexts they might encounter (Greenwood & Parkay, 1989; Creswell, 1998).

Case study construction intended as a teaching tool generally tries to present real elements from authentic experience, coupled with problems which need to be "solved" in the process of learning methods, techniques, or approaches to professional practice. Traditional and new information and communication technologies (ICT) can mediate the case constructs in a continuum, which ranges from simple print text representations to complex digital, 3-dimensional virtual reality simulations with multiple outcomes and responses, utilizing hypermedia links and non-linear designs (Fitzgerald and Semrau, 1998). In the middle of this continuum, between such "traditional" and "cutting-edge" mediums are "intermediate" technologies, readily available to learners and professionals in university, home and K-12 classroom environments. Commonly available intermediate technologies, such as home and office productivity software, traditional photographs and digital camera images, and web-based communication, offer possibilities for developing and validating protocols for understanding classroom contexts and in valuing these experiences as part of a new teacher's critical inquiry into education.

The use of case studies to enhance professional development programs is well known in the fields of business, law and medicine but is a relatively recent and sparsely used innovation in teacher preparation (Lacey & Merseth, 1993; Merriam, 1998). Uses of case based methods in preservice teacher education, while increasing in popularity, have not generally been researched well in this domain (McNaughton, Hall and Maccini, 2001). Case studies allow preservice and in-service professionals opportunities to explore critical issues through real examples, drawing on familiar contexts and situations, with a high degree of transfer to future practice. Traditional case studies are print text oriented, sometimes with supporting photographic, audio or video recording documentation. These are typically offered in a linear construction where participants follow-along with the text and respond to pre-constructed scenarios and defined problems. Multimedia technologies, especially digital images, video, audio and electronic text, offer the possibility of non-linear, hyperlinked constructions which allow learner-defined and directed as opposed to 'scripted' access to and organization of the information.

Multimedia case studies also provide rich, complex, and contextually authentic examples of classroom practice and information for analysis, discussion and learning (Goldman, Barron & Witherspoon, 1991; Merseth & Lacey, 1993). Case examples are often used as discussion material to help candidates develop constructions of "right and

wrong" approaches related to various methods and theory, and in developing problem-solving and decision-making skills. A familiar example to interns in corporate communications is the Phillips Petroleum *Video Case Studies* developed in the 1980s and were developed in collaboration with university faculty and in-house production facilities of the organization (Adams & Gibson, 1996). These corporate training scenarios present "constructed realities", which are supposed to approximate the "real-world" problems employees might encounter. Less common, however, are the uses of case examples to facilitate critical inquiry, as most case studies are either fictional, focus on divining "appropriate" responses to fixed scenarios, or are otherwise removed from more immediate contexts of the learner. Such "synthetic" case study material eliminates the often ill-structured problems which real life presents and may enhance a type of problem solving which is limited in scope; where the range of learned or anticipated responses do not match the complexity or characteristics of the presented sets of problems. Further, in traditional case study material, the "problem" is often pre-defined by the context and case construct and is intended to represent actual problems encountered in reality. This effectively eliminates the potential of developing what critical theorists term the "critical problematic", or problem defining processes which are crucial to the development of understanding relationships and structural issues such as social and economic inequality, privilege, racism, ethnic and gender bias (Shor and Freire, 1987; Ellsworth, 1989).

Reflexive, critical discussion between the new preservice teacher and the more experienced host teacher is often curtailed in typical field experience settings. Case examples developed through the experiences of pre-service teacher candidates offer authentic material and situations which aid in development of attitudes and beliefs, grounded in realistic expectations, particularly when the pre-service candidate is involved in developing the case example as part of their own learning (Alexandrowicz, 2001). Rather than exposing candidates to a collection of "right and wrong" exemplary cases on videotape, the use of a critical approach engages local teachers and teacher candidates in the self-critique and narration of their own practice. In this way, teachers are highly involved in the development of the material along with university faculty and preservice certification candidates.

A "critical" case study is one that is developed or recorded within a framework that critically examines the broader, contextual assumptions of the case. Un-critical case studies, for example, might focus on the efficiency or observed enactment of specific "best practice", irrespective of social and cultural conditions that might be more deterministic of outcomes than the instrumental use of specific methodology. A critical case study encourages the participant to examine broader social, political, historical and cultural themes related to the interactions and physical realities presented in the case construct. A theoretical framework for discussing and critiquing the behaviors and communication in the case is identified at the outset and developed through the participant's interaction with the case materials and others who view and comment on the case.

Addressing the problem: Critically representing local realities.

There is strong evidence that case studies offer professionals an improved form of learning experience over traditional lecture and textbook reading (Barnes, Christensen & Hansen, 1994). However, pre-existing cases, published in texts or available as course software, often loose or otherwise do not have the local and contextual feel and relevance necessary to achieve the benefits of critical examination of familiar realities. Local case examples, prepared for specific instructional purposes and related to the immediate service area of the university usually do not exist. And while cases presented to developing professionals offer an array of problems associated with practice, the "finished" nature of the presented case (even with "open-ended" scenarios) disrupts the involvement of the learner with the context in which the case is situated or otherwise fails to engage an authentic context altogether. Authenticity and the need to anchor the instruction in real contexts challenges all those involved in embracing a critical discussion of their own experience. The study described here examines how the technology can serve to facilitate this process and overcome this challenge.

Willis (2001), points out the need to re-position technology in the background of the conceptualization of new practices and to place the foundations of practice (teaching and learning strategies) to the forefront of technology use in teacher preparation. He also challenges teacher educators to engage participatory approaches in their practice. Both of these challenges are largely unmet by early adopters and innovators using new technologies for teaching and learning, something which has been posited elsewhere as a possible reason for the relatively unrealized potential and under-utilization of information and communication technology in K-12 and university learning environments (McCurry, 2000).

Experiential learning towards preparation of teachers is accomplished, in the undergraduate program described in this study, through roughly 100 hours of required field experience, prior to the state mandated supervised student teaching semester. Like many such programs, the quality of these experiences are hard to control and monitor, given the typically large number of placements each semester (Baker, 2000). Preservice candidates are often placed in "cooperating" classrooms, (sometimes assigned by building principals in correspondence with the university faculty coordinating the field placements) and encouraged to both participate and explore their own and their host teacher's classroom practice. Such experiences are often "logged" in "reflective journals", assigned as required parts of the preservice candidate's coursework. Reflections are often descriptive in nature, and faculty struggle with having candidates make some attempts at analytic thought, directed towards these observations. Loughran (2002) refers to the latter as a type of "rationalizing" reflection (36), where the candidate simply finds some related theory to frame the observed activity, rather than seeking a more critical, deeper analysis of the experience, requiring a productive type of reflection, which ultimately leads to awareness of new practices or knowledge.

This latter approach often leads initially to critical appraisals of the host teacher's classroom management and pedagogical techniques. While critique of this sort is encouraged, the reciprocal effect of sharing these perceptions with the host teacher is discouraged since a "common ground" of understanding (reflective practice and professional development) is usually not part of the relationship. The technology, in this respect, is introduced specifically as a catalyst for transforming this relationship.

Producing Multimedia Case-studies for Teacher Preparation: Description of the study.

What do the materials look like? The end products utilize recordable CD-RW media that facilitates the collection and navigation of text, graphic, audio, and motion video media. Typically one case study per disk is created. As the material utilizes multimedia technology, a number of types of information can exist on the disk at the same time and be cross-referenced and indexed accordingly (Van den Berg, 1999). The case study CD contains the following materials, indexed through a user menu:

1. 3 to 5 minute video sequence of a classroom activity
2. Audio samples of classroom recordings
3. Audio interviews that run with graphic images or by themselves (teachers, principal, students, parents and community members).
4. Still pictures arranged in a "slide show" format
5. Virtual Reality Panorama (360 degree motion graphic images) of classroom interiors, with hyperlinks over target points of interest, such as reading centers, bulletin boards, student projects, etc.
6. Other graphic pictures and animations to enhance concept organization (concept webs, etc.)
7. Text documents to print, including self-guided study material, quizzes, outlines, related standards and frameworks from the state standards, and supportive research articles related to demonstrated approaches and activities.

How are the materials used?

Candidates create visual records of their assigned field placements in groups and in cooperation with the classroom teachers. As the visual records are developed, they are shared for learner critique. Critical analysis of the school and community context are then shared with cooperating teachers who respond with their own descriptive analysis of the classroom, based on the visual panorama, still images, interview recordings and other data.

What type of topics do multimedia cases represent?

While most case studies utilize a "telescoping" approach, moving from a broad overview of an isolated case context to specific micro-analysis of captured classroom activity, critical multimedia cases used in this study are organized to highlight "themes" such as diversity, use of technology, building constructive learning experiences, professional development, problem-based pedagogy, experiential learning examples, and contextual analysis of learner demographics, classroom culture and sociocultural realities of the community. Traditional case examples might attempt to create "near perfect" presentations of field settings in hopes of eliminating "distracting" variables. In the described approach, which is quite different and unique, gathering the data and

recording the setting of the case study gives rise to critical incidents for discussion among the learning groups.

Data collection and methodology

Textual data, in the form of web-based discussion postings (WebCT supported university course) between the preservice candidates, their university faculty, and the cooperating teachers, is coded and analyzed using QSR NVivo qualitative research software along with the resulting image database. The software allows for the linking of "nodes" representing diverse data sets, such as visual references, text and narrative descriptors, and other construct elements. All those who engage the visual representations are encouraged to apply a critical framework for analysis of the represented reality. Theoretical frameworks, drawing on the related fields of visual ethnography, critical social theory, participatory action research (PAR) and case-based analysis are applied to the creation of materials, collaborative analysis of the data, and synthesized action plans for further development. The study explores methodological issues with coding and analyzing text responses posted in online discussion.

Discussion

The study highlights the need to consider aspects of the design and creation of these materials, which require a multi-part collaboration between university resources, faculty, teacher candidates, school administrators and classroom teachers. The following processes are representative of new activity required of teacher preparation, resulting from increased uses of multimedia technologies for learning.

1. Planning process to anticipate needed cases, topics and critical incidents.
2. Acquisition of case data (video recording in the field, audio recording, digital images, document collection, student work samples, etc.). Critical teacher self-reflections and interviews.
3. Sorting and analysis of case data. Critical incidents defined in collaboration with classroom teachers.
4. Editing and authoring of digital data. Publishing of CD-ROM materials.
5. Monitoring and evaluation of candidate's use of material through facilitated discussion (online and face-to-face classroom exchanges).

While the use of multimedia technology and hypertext provides a stimulating and innovative way of engaging disparate groups in critical discussion, it is not a sole catalyst of this process and offers a number of problematic questions of its own (Peters and Lankshear, 1996). The critical framework of the discussion, the theory and orientation of the teacher preparation program and the individual faculty involved, are more likely contributors to the resulting shape of the described activity. The use of multimedia technologies and materials production, coupled with a critical pedagogical approach to classroom analysis and learning, yields an innovative dimension to the use of technology for teacher preparation. Critically oriented discussions between preservice teachers, cooperating teachers in the field, and university faculty, may also

further the diffusion of new technology across existing boundaries of pro-technology supporters and critically minded skeptics of new technology. These uses of multimedia technology have attempted to reach beyond the existing pro-technology rhetoric and explore ways of using new, and available information and communications technology to initiate and enhance a critical pedagogical approach to transforming classroom teaching, learning and professional development. Pictures, sounds, and other visual reference can form an anchor for stimulated discussion between disparate partners. Common perceptions can be brought into closer proximity gradually through different types of dialogue.

While the initial results indicate the complexity and difficulty in doing this, there are also promising indications that if forms a new type of media for communication, coupled with critical perceptions and theoretical frameworks. Difficulty in breaching this often-troubling theory divide in perception might be alleviated through new forms of communication.

References:

Adams, W. C., Gibson, D. (1996). One company's involvement in public relations education: Phillips Petroleum's video case study series. *Public Relations Quarterly*, Fall 1996, 41(3), 21-25.

Alexandrowicz, V. (2001). Community service learning in culturally diverse settings as a springboard for student constructed case studies. *Education*, 121(4) 761-7, Summer.

Baker, Elizabeth A. (2000). Case-Based Learning Theory: Implications for Software Design. *Journal of Technology and Teacher Education*, 8(2), 85-89.

Barnes, L., Christensen, C. R. and Hansen, A. J. (1994). *Teaching and the case method.* Boston: Harvard Business School Press.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions.* Thousand Oaks, CA: Sage.

Ellsworth, E. (1989). Why doesn't this feel empowering? Working through the repressive myths of critical pedagogy. *Harvard Education Review, 59* (3), 297-324.

Fitzgerald, G. E. and Semrau, L. P. (1998). The effects of learner differences on usage patterns and learning outcomes with hypermedia case studies. *Journal of Educational Multimedia and Hypermedia*, 7(4).

Goldman, E., Barron, L., and Witherspoon, M. L. (1991). Hypermedia cases in teacher education: A context for understanding research on the teaching and learning of mathematics. *Action in Teacher Education*, 13(1), 28-6.

Greenwood, G. and Parkay, F. (1989). *Case Studies for Teacher Decision Making.* New York: Random House.

Kanpol, B. (1998). Critical Pedagogy For Beginning Teachers: the Movement From Despair To Hope. *Journal of Critical Pedagogy*. 3(1) November, 1998. Available:http://www.lib.wmc.edu/pub/jcp/issueII-1/kanpol.html

Lacey, C. A. and Merseth, K.K. (1993). Cases, hypermedia and computer networks: Three curriculum innovations for teacher education. *Journal of Curriculum Studies*, 6, 543-552.

Loughran, J. J. (2002). Effective reflective practice: In search of meaning in learning about teaching. *Journal of Teacher Education*. 53(1), 33-43.

McCurry, D. (2000). Multimedia knowledge and culture production: On the possibility of a critical and ethical pedagogy resulting from the current push for technology in the classroom. *Bulletin of Science, Technology and Society*. 20(2), April.

McNaughton, D., Hall, T. E., and Maccini, P. (2001). Case-based instruction in special education teacher preparation: Practices and concerns of teacher educator/researchers. *Teacher Education and Special Education* 24(2) 84-94 Spring.

Merriam, S. (1998). Qualitative research and case studies application in education. San Francisco: Jossey-Bass Publishers.

Merseth, K. K. and Lacey, C. A. (1993). Weaving stronger fabric: The pedagogical promise of hypermedia and case methods in teacher education. *Teaching and Teacher Education*, 9(3), 283-299.

Peters, M. and Lankshear, C. (1996). Critical literacy and digital texts. *Educational Theory*, 46, Winter, 51-70.

Shor, I., and Freire, P. (1987). *A Pedagogy for Liberation: Dialogues on Transforming Education*. South Hadley, MA: Bergen.

Van den Berg, E. (1999). Multimedia cases in elementary science teacher education: Design and development of a prototype. In Technology and Teacher Education Annual. *Society for Technology in Teacher Education*. 936-940.

Willis, J. (2001). Foundational assumptions for information technology and teacher education. *Contemporary Issues in Technology and Teacher Educa*tion, [Online serial], 1(3). Available: http://www.citejournal.org/vol1/iss3/editorials/article1.htm

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

REPRODUCTION RELEASE

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: Multimedia Case-Based Support of Experiential Teacher Education; Critical Self-Reflection and Dialogue in Multicultural Contexts

Author(s):

Corporate Source:

Publication Date: April, 2002

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

☑

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) *and* paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A

☐

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B

☐

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, → please

Signature: D.M. Curry

Printed Name/Position/Title: DAVID McCURRY

Organization/Address:

Telephone: 732 263 5191 FAX:

E-Mail Address: dmccurry@monmouth.edu Date: 4/2/02

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name: David McCurry
Address: MONMOUTH UNIV. 400 CEDAR AVE. W. LONG BRANCH, NJ 07764

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

University of Maryland
ERIC Clearinghouse on Assessment and Evaluation
1129 Shriver Laboratory
College Park, MD 20742
Attn: Acquisitions

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility
4483-A Forbes Boulevard
Lanham, Maryland 20706

Telephone: 301-552-4200
Toll Free: 800-799-3742
FAX: 301-552-4700
e-mail: ericfac@inet.ed.gov
WWW: http://ericfac.piccard.csc.com

EFF-088 (Rev. 2/2000)